"Experimentation as a common language between arts and sciences: transdisciplinary dialogue and cross-cultural practices at UIUC and their manifestation in the work of David Rosenboom."

(1) Bridging Arts and Sciences

Historically, providing a description of nature, giving an explanation to the way it operates, and determining its general "laws" were supposed to be the ultimate objective of sciences. While representation of nature was considered to be a purpose of arts. But are these distinctions, dated back to Greeks, still viable?

Today the new knowledge and new forms emerge where art and science overlap, in zones of friction. Often through the collaboration of "two cultures": when one seeks for visionary rule-breaking, and another employs tools and techniques ensuring robustness of a proposed practice. To our extent, cumulative, relying on previous research sciences and anarchistic, tribalizing arts might benefit from working in tandem.

Art is already widely employed to communicate research of scientists, making it reach out to new audiences through establishing an emotional connection with a subject. Roughly, art enables access to hard-to-comprehend material through ascribing a certain meaning to phenomena. Due to its "anarchistic" impulses, artistic approach also allows us to stretch the frontiers of knowledge – make-believe in limitlessness of human cognition and exploratory activity. While art fuels imagination, fantasy, non-conditioned generation of new questions and concepts, science connects pieces of information in a coherent piece of knowledge that is applicable for practical means.

While the creative cycle in arts and sciences is similar, our different approaches to manifestation of an idea create meaningful epistemic distinctions and disciplinary identities. In science or scholarship, one brings an idea to the world mostly by proving it. Artists, musicians, and engineers manifest their idea through making. The concept of *propositional music* – a point of view about composing in which composers might build proposed models of worlds, universes, evolution, brains, consciousness or whole domains of thought and life, and then proceed to make dynamical musical embodiments of these models, inviting us to experience them in spontaneously emerging sonic forms – unifies the two approaches[1].

As we propose, the major unanswered questions in sciences (neuroresearch, physics) and scholarly disciplines (linguistics, philosophy) – such as existence of other universes, nature of consciousness, music as a means of communication, etc. – should be addressed through the integration of various disciplinary fields. Transcending disciplinary boundaries and transforming present knowledge into a qualitatively new one might be the right pathway to solving “big problems” and setting the next questions. To refer to this collaborative practice we would choose the term **transdisciplinarity** – defining it as a holistic approach to research that crosses disciplinary boundaries and brings together scholarly, scientific and artistic lenses to address problems that span beyond the scope of one discipline. As a result, new intersections and new “synthetic” fields of knowledge emerge, and our understanding of the world becomes slightly more complex.

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[1] Rosenboom, D. (1997). Propositional Music: On Emergent Properties in Morphogenesis and the Evolution of Music. Part I: Essays, Propositions and Commentaries. *Leonardo*, 291-297.

(2) Experiments in Arts and Sciences

In our view, the practice of experimentation might be considered as an integrative element for arts and sciences. What divides us is the language through which we describe phenomenological experiences. Proposing a common language, a **language of experimentation**, we seek confirmation of its viability. For example, by finding work of art-science researchers that would prove longevity of the enterprise. The work started by David Rosenboom in the late 1960s, which might be categorized as bioart, that he continues till our days, so far is one of the best (institutionally, regionally, and historically relevant) examples of synthesis of experimental art and science.

We believe that the visit of David Rosenboom will invigorate local academic and non-academic communities to engage in the development of the proposed common language. The language of experimentation would serve as a tool for creating new things (both compositional and technological innovations), expanding scientific and scholarly knowledge, and fueling cross-disciplinary learning.

It might be hard to outline immediate, tangible, and measurable outcomes of transdisciplinary interaction. Still, we expect the **result** of 2-weeks of experiment-focused activities to be the establishment of an ongoing self-organizing forum between academicians and students of various disciplinary backgrounds which would also include the wider community of Champaign-Urbana. The fact that more than 20 faculty members across various disciplines [2]expressed support for the visit of David Rosenboom, provides us with good prospects.

(3) Anniversary

The proposed series of events are timed to coincide with the 50th anniversary of the *International Carnival of Experimental Sound* that took place in London in 1972 and was staged over two weeks. One of the most influential (and controversial) avant-garde festivals of its days, it’s notable for high concentration of experimental artists. Particularly, during ICES 72 John Cage staged composition *HPSCHD* that he created through collaboration with Lejaren Hiller, and premiered at UIUC in 1969. David Rosenboom was another participant with close ties to UIUC. During the festival, he presented one of the first performances of his brainwave music work, "Portable Gold and Philosophers' Stones" with members of the electronic music group Biome performing the brainwave parts.

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[2] Among those are Stephen Taylor, David Sepkoski, Paris Smaragdis, Sepideh Sadaghiani, Taras Pogorelov, Lippold Haken, and many others representing areas of music, history, computer science, neuroscience, chemistry, and engineering.

Also, looking back to our tradition of having Festivals of Contemporary Arts (1948-1978), we propose to recreate the boldly experimental atmosphere of that time. The influence of the festival spanned well beyond UIUC – bringing to Urbana artists from across the US as well as from Europe and Asia. US experimental music was represented in the best way – Morton Feldman ("New York School"), Pauline Oliveros (San Fransisco Tape Music Center), Robert Ashley (ONCE Group, Ann Harbor), and European guest artists included Karlheinz Stockhausen (WDR Studio), Krzysztof Penderecki (Polish Radio Experimental Studio), Peter Zinovieff (Electronic Music Studios), Yuji Takahashi, and many others. Our ambition is to address this legacy from the historical and artistic point of view and 'reinvent' the format adjusting it to the socio-cultural reality of the 21st century.

(4) Interaction with Communities

Taking into account the historical co-development of experimental arts, theories, and technologies at UIUC we see particular importance in illuminating the long tradition of interdisciplinary collaboration on campus that enabled many innovations. Considering a particular case of intellectual exchange between Experimental Music Studios, Biological Computer Laboratory, and CERL Music Project during the panel discussion we will investigate the symbiotic relationship between university centers of academic knowledge and the **broader community.**

A plethora of technological innovations supplied by students and faculty of UIUC (web browser, PLATO's platform for online learning, etc.), many of which became internationally successful start-ups and inspired development of a concept "Silicon Prairie", serve as an indicator of this fruitful juncture. The same can be noted about arts – strong music and artistic community (centered around Virginia Theater, Urbana-Champaign Independent Media Center, C4A: Community Center for the Arts, etc.) provides audiences to performers affiliated with academia as well as brings new talents to UIUC. These and many more omitted observations make us propose the need in establishing a forum between academic and non-academic audiences for direct exchange of diverse knowledge and expertise.

(5) Proposed Activities

Inviting a wider audience to participate in the public discussion about interdisciplinary collaboration and in an event commemorating experimental innovations (both technological and compositional) of Salvatore Martirano, who was a mentor and friend of David Rosenboom, and a member of the broader artistic community of Champaign-Urbana, we strive to establish the dialogue with non-academic communities.

Agitating students and faculty within the formats of experimental music forum, computer music class, a seminar on data sonification, and via various masterclasses, with composer-performers we hope to motivate members of the academic community to form collaborative units with fellows of various disciplinary backgrounds.

Staging performances featuring acoustic, analog electronic, hybrid, and digital instruments, including various non-western music instruments, as well as exposing audiences to the practice of using neurofeedback for live performance, we hope to spark exploration of new sounds and develop new concepts of composition that would be informed by ongoing transdisciplinary and cross-cultural discussion.

Finally, with a keynote speech about learning across disciplines through the practice of experiment to be given by David Rosenboom, we hope to set the ground for ongoing conversation of how our educational institutions grapple with critical paradigms of contemporary learning.